Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Canceled)

2. (Currently Amended) A substrate processing equipment comprising

heating means that heats a substrate accommodated in a processing chamber,

first temperature detection means that detects temperature in the neighborhood of the heating means,

second temperature detection means that detects temperature in the neighborhood of the substrate, and

control means that mixes a first predicted temperature of the substrate ~~dynamically~~ calculated from the temperature detected by the first temperature detection means and a second predicted temperature of the substrate ~~dynamically~~ calculated from the temperature detected by the second temperature detection means, varying a mixing ratio of the first predicted temperature and the second predicted temperature of the substrate according to a magnitude of variation of temperature detected by the second temperature detection means to control the heating means with the use of the ~~predicted temperature~~ first and second predicted temperatures as mixed.

3. (Canceled)

4. (Canceled)

5. (Canceled)

6. (Currently Amended) The substrate processing equipment according to claim 2, wherein the heating means comprises a plurality of zone heating means,

the temperature detection means comprises first zone-temperature detection means and second zone-temperature detection means, which correspond to the zone heating means, respectively, and

the control means sets virtual temperature detection means in a position nearer to a substrate, a temperature of which is to be predicted, than to other substrates, calculates a detection value of the virtual temperature detection means on the basis of ~~the~~ a corresponding relationship between the virtual temperature detection means and the first zone-temperature detection means or the second zone-temperature detection means and a measured value measured by the first zone-temperature detection means or the second zone-temperature detection means, predicts a substrate temperature in a period subsequent to ~~the~~ a previous period by means of the ~~predicted value as calculated~~ first and second predicted temperatures and ~~that~~ a substrate temperature in the previous period, which is predicted by the virtual temperature detection means, and controls the respective zone heating means on the basis of the substrate predicted temperature.

7.   (Canceled)

8.   (Currently Amended) The substrate processing equipment according to claim 2, further comprising output means that outputs a temperature detected by the first or second temperature detection means in substantially ~~the~~ a same period as ~~that period, in which~~ a period in which the control means controls output of the heating means, by displaying and recording or either of ~~them~~ the first or second detected temperatures.

9.   (Canceled)

10.   (Canceled)

11.   (Canceled)

12.   (Canceled)

13. (Currently Amended) A substrate processing method for a substrate processing equipment comprising a reaction chamber that processes a substrate, heating means that heats an interior of the reaction chamber, control means that controls the heating means, first temperature detection means that detects temperature between the heating means and the substrate, and second temperature detection means that detects temperature nearer to the substrate than the first temperature detection means, the method comprising the steps of:

measuring a temperature with the first temperature detection means,

calculating a first substrate predicted temperature ~~dynamically~~ from the temperature measured by the first temperature detection means,

measuring a temperature with the second temperature detection means,

calculating a second substrate predicted temperature ~~dynamically~~ from the temperature measured by the second temperature detection means, and

mixing the first substrate predicted temperature and the second substrate predicted temperature, <u>varying a mixing ratio of the first predicted temperature and the second predicted temperature of the substrate according to a magnitude of variation of temperature detected by the second temperature detection means</u> to control the heating means <u>with the use of the first and second predicted temperatures as mixed</u>.

14. (Canceled)

15. (Canceled)

16. (Currently Amended) <u>A substrate processing equipment comprising</u>

<u>a heater that heats a substrate accommodated in a processing chamber,</u>

<u>a first thermocouple that detects temperature in the neighborhood of the heater,</u>

<u>a second thermocouple that detects temperature in the neighborhood of the</u>

<u>substrate, and</u>

<u>a controller that mixes a first predicted temperature of the substrate calculated from the temperature detected by the first thermocouple and a second predicted temperature of the substrate calculated from the temperature detected by the second thermocouple.</u> ~~The substrate processing equipment according to claim 2, wherein the controller varies~~<u>varying</u> a mixing ratio of the first predicted temperature and the second predicted temperature of the substrate according to a magnitude of variation of temperature detected by the second thermocouple<u> to control the heater with the use of the first and second predicted temperatures as mixed</u>.

17.   (Currently Amended) A substrate processing method for a substrate processing equipment comprising a reaction chamber that processes a substrate, <u>a </u>heater that heats an interior of the reaction chamber, <u>a </u>controller that controls the heater, <u>a </u>first thermocouple that detects temperature between the heater and the substrate, and <u>a </u>second thermocouple that detects temperature nearer to the substrate than the first thermocouple, the method comprising the steps of:

measuring a temperature with the first thermocouple;

calculating a first substrate predicted temperature ~~dynamically~~ from the temperature measured by the first thermocouple;

measuring a temperature with the second thermocouple;

calculating a second substrate predicted temperature ~~dynamically~~ from the temperature measured by the second thermocouple; and

mixing the first substrate predicted temperature and the second substrate predicted temperature<u>, varying a mixing ratio of the first predicted temperature and the second predicted temperature of the substrate according to a magnitude of variation of temperature detected by the second thermocouple</u> to control the heater<u> with the use of the first and second predicted temperatures as mixed</u>.